PURPURA, *OCENEBRA*, AND *MURICANTHUS* (GASTROPODA): REQUEST FOR CLARIFICATION OF STATUS. Z.N.(S.) 1621

By A. Myra Keen (*Stanford University, California, U.S.A.*)

Several questions have arisen in my revision of the gastropod superfamily Muricacea for the " Treatise on Invertebrate Paleontology " that seem to require decision by the International Commission on Zoological Nomenclature. Three of these are here grouped as a single petition because the problems involved are somewhat related and are relatively straightforward.

I. *Status of Purpura*

While I was preparing the preliminary draft of this petition, a comment by Drs. J. Chester Bradley and Katherine V. W. Palmer was published (*Bull. zool. Nomencl.* **20** : 251) relative to Z.N.(S.) 1088, on *Ceratostoma*. I have therefore rephrased my statements so as to discuss the requests that they made to the Commission.

The " Purple-shells " of the ancients, so often mentioned by authors, were any of several mollusks from which a colorfast dye could be obtained, mainly a species of the family Muricidae, *Murex trunculus* Linnaeus, 1758, from the eastern Mediterranean, a form not included acceptably in the nominal genus *Purpura* until late in the eighteenth century, and then only fleetingly. Linnaeus did not recognize *Purpura* as a genus but placed the species under *Murex*. In the ensuing half-century, from 1758 to 1799, the name *Purpura* was used in several different senses, the earliest appearances (Martini and Chemnitz, 1777; Martyn, 1784; and Meuschen, 1787) being in works now rejected as non-binominal. Bradley and Palmer conclude that (and in this I agree) the introduction of the name by Bruguière, 1789, was not in such a way as to fix the type-species; the proposal was, at best, of a genus without named species. They would invoke subsequent monotypy under Article 69a (ii) (2) of the Code, the type being fixed by Lamarck, 1799, as *Buccinum persicum* Linnaeus, 1758. This, however, overlooks a very different usage of the generic name by Bruguière himself in 1792, when he proposed in an entirely acceptable manner the nominal species *Purpura tubifer* (*J. Hist. nat.*, Paris, **1** : 28, pl. 2, figs. 3–4). This Eocene fossil was refigured by Montfort in 1810 and made the type-species of the new genus *Typhis*. Hence, the device of subsequent monotypy would not preserve *Purpura* in its accustomed sense, and it would jeopardize a well-known and uncontroversial name, *Typhis*. I conclude, therefore, that action by the Commission, under the plenary powers, is required. Two alternatives are possible:

(a) Fixation of the type-species of *Purpura* Bruguière, 1789, arbitrarily as *Buccinum persicum* Linnaeus, 1758, in accordance with current practice.

(b) Suppression of the name *Purpura* on the ground that its use is and has been equivocal. In support of the latter alternative the following arguments may be advanced:

(i) During the last half of the eighteenth century the name was used in at least five different senses, generically, in what would now be regarded as two separate families. Usage during the nineteenth century was fairly uniform, mostly in the sense that would result from alternative (a) above; this was in Muricidae only if the family was interpreted broadly, in Purpuridae when subdivisions were made. Early in the present century confusion was re-introduced with Dall's revival of the Martyn names, for the *Purpura* of Martyn would fall in Muricidae in the strict sense. The inconsistencies that resulted continue to plague authors; for example, a recently published local guide book by a highly respected zoologist, one that has obviously been given careful preparation, cites *Purpura* twice on one page, representing two very different senses (" *Purpura foliata* " and " *Purpura lapillus* ", page 104 of *Seashore Life of the San Francisco Bay Region*, by Joel Hedgpeth, University of California Press, 1963). Such is the confusion in the literature that this ambiguity can readily occur. Suppression of the name will not, of course, expunge it from published literature, but it would require future authors to clarify their terminology. Subsequent names are available for the taxa now allocated to *Purpura: Haustrum* Perry, 1811[1] (type-species, by subsequent designation by Iredale, 1915, *H. zealandicum* Perry = *Buccinum haustorium* Gmelin, 1791) for the group of *B. persicum*, of which the two type-species are conceded to be congeneric; and *Plicopurpura* Cossmann, 1903 (type-species by original designation, *Purpura columellaris* Lamarck, 1822) for a closely related or taxonomically subordinate tropical American group. Oddly enough, all of the species in the erstwhile *Purpura* Auctt. are Indo-Pacific, South Pacific, or tropical American in distribution, none being Mediterranean. The total number of species involved is small—well under ten, perhaps not more than five. Suppression of *Purpura*, therefore, would not have widespread effects.

(ii) *Purpura* of authors is morphologically very close to *Thais* Röding, 1798 (*ex* Bolten MS) (type-species, by subsequent designation by Iredale, 1915: *T. lena* Röding = *Murex fucus* Gmelin, 1791 = *Nerita nodosa* Linnaeus, 1758). The acceptance, early in the present century, of the *Museum Boltenianum* as an available source of generic names (I.C.Z.N. Opinion 96) and the revival of *Purpura* Martyn by Dall as a genus in Muricidae had as a result the replacement of the family name Purpuridae by Thaisidae Suter, 1913 (or its emended form Thaididae, which is classically more correct), and the latter has been almost universally applied ever since. Now that priority for family-group names is required under the Code, Purpuridae—which has long priority—would have to be reinstated and Thaisidae (or Thaididae) would have to be abandoned, for the two groups cannot be separated taxonomically even at the subfamily level. This would serve no useful purpose and could well increase the confusion.

---

[1] In compliance with Article 23b of the Code, one must point out that two specific names in the genus *Haustrum* Perry, 1811 (*Conchology:* pl. 44) are *nomina oblita: Haustrum pictum*, figure 2, is stated to be from the East Indies. It is unmistakably the West Central American *Purpura planospira* Lamarck, 1822. *Haustrum dentex*, figure 3, stated to be from "Nootka Sound", is likewise a tropical West American form, *P. columellaris* Lamarck, 1822. American malacologists seem not to have noticed these figures, and the names have never been utilized. The Commission is hereby asked to suppress both in the interests of stability.

The course that would result in least disruption of established nomenclature would be alternative (a) above, *provided* that at the same time all family-group names based on *Purpura* were suppressed. I would therefore petition, for the reasons given under (ii) above, that the Commission designate, under the plenary powers, *Buccinum persicum* as the type-species of *Purpura* Bruguière.

II. *Tritonalia* vs. *Ocenebra*

Bradley and Palmer (op. cit., 253) inject into the discussion of *Ceratostoma* the wholly unrelated question of the earliest generic name for the group of species typified by *Murex erinaceus* Linnaeus, 1758, whether it be *Tritonalia* Fleming, 1828, or *Ocenebra* Gray, 1847. They do not accept Winckworth's thesis that Fleming in renaming the homonymous *Triton* as *Tritonalia* automatically renamed its earliest usage in Mollusca. Rather, they argue that Fleming was referring only to his own usage of the name *Triton*. Because Fleming did not cite authorities for genera, one cannot say positively either that he intended to propose a new taxon or that he considered *Triton* Montfort, 1810, could include the species he enumerated. As Montfort's figure of *Triton tritonis* (Linnaeus) is not a clear one, a worker unfamiliar with the large tropical shell it represents could well assimilate to the genus the much smaller forms that Fleming cited. True, under modern standards of classification these two groups represent different families; but standards change. Evidence of the broad interpretation of the *Triton* of that time is supplied us by Herrmannsen, compiler of the " Indices Generum Malacozoorum", who, as late as 1849 (vol. 2 : 605), synonymised both *Triton* Montfort, 1810, and *Tritonalia* Fleming, 1828, with the earlier but preoccupied *Tritonium* Link, 1807.

Aside from all this there is a very practical consideration. For the past thirty years authors have increasingly accepted Winckworth's interpretation, and few modern workers are utilizing *Tritonalia* with *Murex erinaceus* as type-species. To revert to it now and to reject *Ocenebra* Gray as a synonym would provide a good case for those who sneer at systematists for their name-changing. A few workers have gone so far as to use *Tritonalia* to replace *Triton*, thus displacing the well-known *Charonia* Gistel. This action, though logical, could be a cause of confusion.

In the interests of stability and in harmony with most current practice, therefore, the Commission is asked to suppress *Tritonalia* Fleming, 1828, as an equivocal name, because the intention is not clear as to which usage of *Triton* it was intended to replace.

III. Status of *Muricanthus*

In 1833 Swainson (*Zool. Illustr.* (2) **3** : pl. 100) proposed the subgeneric name *Centronotus* for *Murex (C.) eurystomus* Swainson, new species, which he said had been wrongly called *M. saxatilis* Linnaeus by authors. The figured specimen is a muricid gastropod of the group *Hexaplex* Perry, 1811, probably not separable, subgenerically, from the type-species of the genus, *H. foliacea* Perry = *Murex cichoreum* Gmelin, 1791. However, the name *Centronotus* was preoccupied—as Swainson himself soon realized—by *Centronotus* Schneider, 1801, in Pisces.

Swainson in 1840 (*Treatise Malac.* : 296) proposed the generic name *Muricanthus* with two species, *M. radix* [Gmelin, 1791]—for which he cited a figure in his *Zoological Illustrations*, pl. 113—and *M. melanomathos* [Gmelin, 1791]. The first of these two species was designated as type by Herrmannsen in July, 1847 (*Indices Gen. Malacoz.* **2** : 69), and this selection has been accepted by later authors, the name *Muricanthus* being well entrenched in current usage. However, as has been pointed out to me by Emily H. Vokes (*in litt.*), Swainson stated in a footnote that *Muricanthus* was a new name for the preoccupied *Centronotus*, a fact that has generally been overlooked. Under Article 67 (i) of the Code its type-species is not subject to subsequent designation and must become that of *Centronotus*. Authors have generally considered the type of *Centronotus* to have been fixed by monotypy, as *Murex eurystomus* (for example, Clench, 1945, *Johnsonia* **1** (17) : 42). If this is true, then strict application of the Rules would make *Muricanthus* fall as a synonym of *Hexaplex*. If it could be shown that plates 100 and 113 of Swainson's *Zoological Illustrations* appeared simultaneously, the type of *Centronotus* would be fixed by subsequent designation by Gray 1847 (Nov.) (*Proc. zool. Soc. Lond.* : 133), as *Murex radix*, for Swainson used the name *Centronotus* on both plates. Swainson's tabular summary of parts shows that plate 100 appeared in part 22 and plate 113 in part 25, but I have not been able to find any statement as to dates of publication other than Sherborn's in the *Index Animalium*, that plates 96–136 appeared in 1833. Because of the uncertainty as to the type-species of *Centronotus* and because no useful purpose would be served by declaring *Muricanthus* an objective synonym of *Hexaplex*, the Commission is asked to validate *Muricanthus* Swainson, 1840, under suspension of the Rules, with the type-species *Murex radix* Gmelin, 1791, in accordance with accepted usage.

IV. Proposals

Summarizing the several requests the Commission is asked:

(1) to use its plenary powers:
  (a) to set aside all designations of type-species for the nominal genus *Purpura* Bruguière, 1789, and having done so to designate *Buccinum persicum* Linnaeus, 1758, to be the type-species of that genus;
  (b) to set aside all designations of type-species for the nominal genus *Muricanthus* Swainson, 1840, and having done so to designate *Murex radix* Gmelin, 1791, to be the type-species of that genus;
  (c) to suppress the following names for the purposes of the Law of Priority but not for those of the Law of Homonymy:
    (i) the family-group names PURPURACEA Menke, 1828;
    PURPURIDAE Broderip, 1839;
    PURPURINAE Swainson, 1835;
    (ii) the generic name *Tritonalia* Fleming, 1828;

(2) to place the following generic names on the Official List of Generic Names in Zoology:
  (a) *Purpura* Bruguière, 1789 (gender : feminine), type-species, by designation under the plenary powers in (1) (a) above, *Buccinum persicum* Linnaeus, 1758;

   - (b) *Ocenebra* Gray, 1847 (gender : feminine), type-species, by monotypy, *Murex erinaceus* Linnaeus, 1758;
   - (c) *Muricanthus* Swainson, 1840 (gender : masculine), type-species, by designation under the plenary powers in (1) (b) above, *Murex radix* Gmelin, 1791;
   - (d) *Charonia* Gistel, 1848 (gender : feminine), type-species, by original designation, *Murex tritonis* Linnaeus, 1758;
   - (e) *Thais* Röding, 1798 (gender : feminine), type-species, by designation by Iredale, 1915, *Murex fucus* Gmelin, 1791;
- (3) to place the following specific names on the Official List of Specific Names in Zoology:
   - (a) *persicum* Linnaeus, 1758, as published in the binomen *Buccinum persicum* (type-species of *Purpura* Bruguière, 1789);
   - (b) *erinaceus* Linnaeus, 1758, as published in the binomen *Murex erinaceus* (type-species of *Ocenebra* Gray, 1847);
   - (c) *radix* Gmelin, 1791, as published in the binomen *Murex radix* (type-species of *Muricanthus* Swainson, 1840);
   - (d) *tritonis* Linnaeus, 1758, as published in the binomen *Murex tritonis* (type-species of *Charonia* Gistel, 1848);
   - (e) *nodosa* Linnaeus, 1758, as published in the binomen *Nerita nodosa* [Note: the oldest available name for the type-species of *Thais* Röding, 1798];
- (4) to place the following generic names on the Official Index of Rejected and Invalid Generic Names in Zoology:
   - (a) *Tritonalia* Fleming, 1828 (as suppressed under the plenary powers in (1) (c) above);
   - (b) *Triton* Montfort, 1810 (a junior homonym of *Triton* Linnaeus, 1758);
   - (c) *Centronotus* Swainson, 1833 (a junior homonym of *Centronotus* Schneider, 1801);
- (5) to place the following specific names on the Official Index of Rejected and Invalid Specific Names in Zoology:
   - (a) *pictum* Perry, 1811, as published in the binomen *Haustrum pictum* (a senior synonym of *Purpura planospira* Lamarck, 1822, to be rejected as a *nomen oblitum*);
   - (b) *dentex* Perry, 1811, as published in the binomen *Haustum dentex* (a senior synonym of *Purpura columellaris* Lamarck, 1822, to be rejected as a *nomen oblitum*);
- (6) to place the family-group name THAIDIDAE (correction of THAISIDAE) Suter, 1913 (type-genus *Thais* Röding, 1798) on the Official List of Family-Group Names in Zoology;
- (7) to place the following family-group names on the Official Index of Rejected and Invalid Family-Group Names in Zoology; as suppressed under the plenary powers in (1) (c) above:
   - (a) PURPURACEA Menke, 1828;
   - (b) PURPURIDAE Broderip, 1839;
   - (c) PURPURINAE Swainson, 1835.